CLAIMS

1. A method for maintaining end-to-end synchronization on a telecommunications connection on which data are transmitted in frames substantially in real time and using synchronized end-to-end encryption which is synchronized by occasionally transmitting synchronization vectors in said frames, at least part of the telecommunications connection being a packet-switched connection, whereby the reproduction delay of the data to be transmitted can be increased by adding one or more extra frames to the frame sequence to be transferred and reduced by removing one or more frames from the frame sequence to be transferred, the method comprising the step of:

changing the reproduction delay during the data transmission at such a moment that the frame to be transferred next after the change comprises a synchronization vector.

2. A method according to claim 1 comprising the steps of:

monitoring frames arriving at the receiving end of the packet-switched connection;

identifying synchronization vectors included in the frames; and

changing the reproduction delay at the receiving end of the packet-switched connection at such a moment that the frame to be forwarded next after the change at the receiving end of the packet-switched connection comprises a synchronization vector.

3. A method according to claim 1 or 2, wherein the packet-switched connection employs an Internet protocol.

4. A method according to claim 1 or 2, wherein the telecommunications connection belongs to the TETRA system.

5. A method according to claim 1 or 2, wherein the encryption is carried out using a key stream segment generated using an initialisation vector.

6. A method according to claim 1 or 2, wherein the synchronization vector comprises an initialisation vector.

7. An arrangement for maintaining end-to-end synchronization on a telecommunications connection on which data are transmitted in frames substantially in real time and using synchronized end-to-end encryption which is synchronized by occasionally transmitting synchronization vectors in said frames, at least part of the telecommunications connection being a packet-switched connection, whereby the reproduction delay of data to be transmitted can be increased by adding one or more extra frames to the frame sequence to be transferred and reduced by removing one or more frames from the frame sequence to be transferred, the arrangement comprising:

reproduction delay adjustment means which are arranged to change the reproduction delay during the data transmission at such a moment that the frame to be transferred next after the change comprises a synchronization vector.

8. An arrangement according to claim 7, wherein the reproduction delay adjustment means are arranged to

monitor frames arriving at the receiving end of the packet-switched connection;

identify synchronization vectors included in the frames; and

change the reproduction delay at the receiving end of the packet-switched connection at such a moment that the frame to be forwarded next after the change at the receiving end of the packet-switched connection comprises a synchronization vector.

9. An arrangement according to claim 7 or 8, wherein the packet-switched connection employs an Internet protocol.

10. An arrangement according to claim 7 or 8, wherein the telecommunications connection belongs to the TETRA system.

11. An arrangement according to claim 7 or 8, wherein the encryption is carried out using a key stream segment generated using an initialisation vector.

12. An arrangement according to claim 7 or 8, wherein the synchronization vector comprises an initialisation vector.

13. A network element for maintaining end-to-end synchronization on a telecommunications connection on which data are transmitted in frames substantially in real time and using synchronized end-to-end encryption which is synchronized by occasionally transmitting synchronization vectors in said frames, at least part of the telecommunications connection being a packet-switched connection which comprises a network element capable of increasing the reproduction delay of the data to be transmitted by adding one or more extra frames to the frame sequence to be transferred and reduce the reproduction delay of the data to be transmitted by removing one or more frames from the frame sequence to be transferred, the network element being arranged to change the reproduction delay during the data transmission at such a moment that the frame to transferred next after the change contains a synchronization vector.

14. A network element according to claim 13, wherein the network element is arranged to

monitor arriving frames at the receiving end of the packet-switched connection (PDN);

identify synchronization vectors included in the frames; and

carry out the change in the reproduction delay at the receiving end of the packet-switched connection (PDN) at such a moment that the frame to be forwarded next after the change at the receiving end of the packet-switched connection comprises a synchronization vector.

15. A network element according to claim 13 or 14, wherein the packet-switched connection employs an Internet protocol.

16. A network element according to claim 13 or 14, wherein the telecommunications connection belongs to the TETRA system.

17. A network element according to claim 13 or 14, wherein the encryption is carried out using a key stream segment generated using an initialisation vector.

18. A network element according to claim 13 or 14, wherein the synchronization vector comprises an initialisation vector.

19. A network element according to claim 13 or 14, wherein the network element is a TETRA dispatcher workstation.

20. A network element according to claim 13 or 14, wherein the network element is a base station.

21. A network element according to claim 13 or 14, wherein the network element is a media gateway.